STEM Standard of Practice 4: **Engage in Inquiry**

STEM proficient students will engage in inquiry to investigate global issues, challenges, and real world problems.

A. Ask questions to identify and define global issues, challenges, and real world problems.

Grades: Kindergarten	**Instructional Notes and Examples**	**Resources**	**Glossary**

Essential Skills and Knowledge
With prompting and support, students will be able to:
 	
• Ask and answer questions:
  ◦ about content specific books.
  ◦ related to global issues
  ◦ to solve real world problems or challenges. *(SLM Pk-1. 6.A.1d)*
• Pose/ask questions about the problem/situation. *(SS.K.6.C.2.b)*
• Ask and/or answer who, what, where, how, when and why questions. *(CCSS RI.K.1)*
• Make predictions based on personal interest, interests of others, or issues or problems around them.
• Ask questions to make sense of an issues or problem.
• Ask or change a question to address issues or to solve problems.
	Teacher Note:
	• Consider the appropriate lower level questions for this age:
	  ◦ what is
	  ◦ who is
	  ◦ where would you find
	  ◦ how could
	  ◦ why does
	Suggested Activities:
	Mystery Box: Use a mystery box to help students with practice of asking questions and thinking of appropriate questions to ask. Place an item in the box that the students can ask questions about to provide them clues to help find out what is in the box. The box can be sent home with students so they can choose the item for the mystery box.
	Teacher Note:
	b. Model asking questions clarifying questions. Consider using a book related to specific content to address global issues, challenges, and/or real world problems.
		For Planning:
		Maryland Common Core State Curriculum Frameworks – Reading / English Language Arts http://mdk12.org/instruction/curriculum/reading/index.html (CCSS K RL, 1) Find more specific link to this indicator in ELA (Reading Informational Text)
		David Sobel
		Book for staff: *Beyond Ecophobia --* **Online article:** http
		Learning to Give
		Lesson examples for global issues: http://learningtogive.org/lessons/all_units.asp?grades=K-2
		For Lesson Use:
		Wonderopolis
		http://wonderopolis.org
			Global issues
			Issues that impact the Earth as a whole, problems that concern a population throughout the world. A global issue is an issue that's going on all over the world meaning it not only going on in a certain place. For example: global warming is a global issue, not like the oil spill it hasn't affected the whole world.
			Real world problems
			Problems that actually occur in everyday life.
			Challenges
			A problem or concern that should be addressed. A competition.

STEM Standard of Practice 4: **Engage in Inquiry**

STEM proficient students will engage in inquiry to investigate global issues, challenges, and real world problems.

B. Conduct research to refine questions and develop new questions.

Grades: Kindergarten	**Instructional Notes and Examples**	**Resources**	**Glossary**
Essential Skills and Knowledge With prompting and support, students will be able to: • With modeling and support, a. listen to information related to *science*, *technology*, *engineering*, or *mathematics*. b. discuss topic related to student, school or community interests, issues, or problems. *c.* ask and answer questions to better understand the questions, problems, or issues. *(See SLM Pk-1. 6.A.1a-e)* • Explore books that have information about *science*, *technology*, *engineering*, and *mathematics*. *(SLM Pk-1. 1.B.1a)* • Learn how to change individual or group questions and create new questions.	**Suggested Activities:** ○ Select a text from the classroom library that supports STEM processes (i.e. a book about a boat, a race car, a house (The Little House would be great!)). ○ Read the book with the students and provide them with the opportunity to talk about: How do you think….? What might you use….? In regards to the engineering process. ○ Then have students use straws and play-dough or other tools to 'build' something in the classroom to solve a problem. ○ Model a question that you might ask (How can we make the slide go faster?) and then discuss what else we might want to know/what other questions might we ask.	**For Planning:** **Mathematical Practices** (see pages 6-8) http://mdk12.org/share/frameworks/CCSC_Math_grk.pdf **Engineering Design Process Model for Elementary Engineering is Elementary:** http://www.mos.org/eie/engineering_design.php **For Lesson Use:** http://www.pbs.org/teachers/stem/engineering/	**Create** To bring something into existence; to use imagination to invent things or produce works of art; to result in something or make something happen. **Information** Knowledge gained through study, communication, research, instruction, etc.; factual data. **Questions** A request for information or for a reply, which usually ends with a question mark if written or on a rising intonation if spoken.